Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference H1377-03	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/JP02/06344	International filing date (*day/month/year*) 25 June 2002 (25.06.02)	Priority date (*day/month/year*) 26 June 2001 (26.06.01)
International Patent Classification (IPC) or national classification and IPC H01L 43/08, 43/12, G11B 5/39, G01R 33/09, H01F 10/16, 10/30, 10/32		
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
14 January 2003 (14.01.03)	08 September 2003 (08.09.2003)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP02/06344

I. Basis of the report

1. With regard to the **elements** of the international application:*

☐ the international application as originally filed

☒ the description:

pages 1-92, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☒ the claims:

pages 2-5,8-10,12-14, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages 1,7,11,15-22, filed with the letter of 30 May 2003 (30.05.2003)

☒ the drawings:

pages 1/6-6/6, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☒ the claims, Nos. 6
☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-5, 7-22	YES
	Claims		NO
Inventive step (IS)	Claims	1-5, 7-22	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-5, 7-22	YES
	Claims		NO

2. Citations and explanations

Claims 1-5, 7-11, 15-22

The point about a composition extending from at least one of the interface between a pair of ferromagnetic layers and a nonmagnetic layer to a range of only 2 nn at the side opposite the aforesaid nonmagnetic layer and having the formula $(Fe_xCo_yNi_z)pM^1qM^2rM^3sAt$ (where M^1 is at least one element selected from the group consisting of Tc, Re, Ru, Os, Rh, Ir, Pd, Pt, Cu, Ag, and Au, M^2 is at least one element selected from the group consisting of Mn and Cr, M^3 is at least one element selected from the group consisting of Ti, Zr, Hf, V, Nb, Ta, Mo, W, Al, Si, Ga, Ge, In, and Sn, and x, y, z, p, q, r, s, and t are numerical values that respectively satisfy $0 \leq x \leq 100$, $0 \leq y \leq 100$, $0 \leq z \leq 100$, $x + y + z = 100$, $40 \leq p \leq 99.7$, $0.3 \leq q \leq 60$, $0 \leq r \leq 20$, $0 \leq s \leq 30$, $0 \leq t \leq 20$, $p + q + r + s + t = 100$) is not described in any of the documents cited in the ISR and appears to be non-obvious to a person skilled in the art.

Claims 12-14

The point about heat treating an undercoating film formed on a substrate at 400°C or higher and then irradiating an ion beam on the surface of the undercoating film and reducing surface roughness is not described in any of the documents cited in the ISR and appears to be non-obvious to a person skilled in the art.